RAW SEQUENCE LISTING



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/662, 6/3A

Source: 10/662, 6/3A

Date Processed by STIC: 12/22/06

ENTERED



IFW16

RAW SEQUENCE LISTING DATE: 12/22/2006
PATENT APPLICATION: US/10/662,613A TIME: 18:39:24

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt

Output Set: N:\CRF4\12222006\J662613A.raw

```
3 <110> APPLICANT: Farid, Hossain A.
             Otieno, Charles J.
             Benkel, Bernhard F.
      7 <120> TITLE OF INVENTION: Insulin-Like Growth Factor-1 Receptor (IGF-1R) Polymorphic
             Alleles and Use of the Same to Identify DNA Markers for
     9
             Reproductive Longevity
    11 <130> FILE REFERENCE: P05562US00
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/662,613A
     14 <141> CURRENT FILING DATE: 2003-09-15
                                                            see pb
    16 <160> NUMBER OF SEQ ID NOS: 23
    18 <170> SOFTWARE: PatentIn version 3.3
    20 <210> SEO ID NO: 1
    21 <211> LENGTH: 4500
     22 <212> TYPE: DNA
    23 <213> ORGANISM: Mus musculus
    25 <400> SEQUENCE: 1
    26 atgaagtetg geteeggagg agggteeeeg acetegetgt gggggetegt gtttetetee
                                                                               60
    28 gccgcgctct ctctctggcc gacgagtgga gaaatctgtg ggcccggcat tgacatccgc
                                                                              120
    30 aacgactatc agcagctgaa gcgcctggaa aactgcacgg tgatcgaggg cttcctccac
                                                                              180
    32 atcctgctca tctccaaggc cgaggactac cgaagctacc gcttccccaa gctcaccgtc
                                                                              240
    34 atcactgagt acttgctgct cttccgagtc gctggcctcg agagcctggg agacctcttc
                                                                              300
    36 cccaacctca cagtcatccg tggctggaaa ctcttctaca actacgcact ggtcatcttc
                                                                              360
    38 gagatgacca atctcaagga tattgggctt tataatctga ggaacattac tcggggggcc
                                                                              420
    40 atcaggattg agaagaacgc cgacctctgt tacctctcca ccatagactg gtctctcatc
                                                                              480
    42 ttggatgcgg tgtccaataa ctacattgtg gggaacaagc ccccgaagga atgtggggac
                                                                              540
    44 ctgtgtccag ggacattgga ggagaagccc atgtgtgaga agaccaccat caacaatgag
                                                                              600
    46 tacaactacc gctgctggac cacaaatcgc tgccagaaaa tgtgcccaag tgtgtgcggg
                                                                              660
    48 aagcgagcct gcaccgagaa caacgagtgc tgccacccgg agtgcctggg cagctgccac
                                                                              720
    50 acaccggacg acaacacaac ctgcgtggcc tgcagacact actactacaa aggcgtgtgt
                                                                              780
    52 gtgcctgcct gcccgcctgg cacctacagg ttcgagggct ggcgctgtgt ggatcgcgat
                                                                              840
    54 ttctgcgcca acatccccaa cgctgagagc agtgactcgg atggcttcgt tatccacgac
                                                                              900
    56 gatgagtgca tgcaggagtg tccctcaggc ttcatccgca acagcaccca gagcatgtac
                                                                              960
    58 tgtatcccct gcgaaggccc ctgccccaaa gtctgcggcg atgaagagaa gaaaacgaaa
                                                                             1020
    60 accategatt eggtgaette tgeteaaatg etceaaggat geaceateet gaagggeaat
                                                                             1080
    62 ctgcttatta acatccggag aggcaataac attgcctcgg agttggagaa cttcatgggg
                                                                             1140
    64 ctcatcgagg tggtgaccgg ctacgtgaag atccgccatt ctcatgcctt ggtctccttg
                                                                             1200
    66 teetteetga agaacetteg teteatetta ggagaggage agetggaagg gaactaetee
                                                                             1260
    68 ttctatgtcc tagacaacca gaacttgcag cagctgtggg actggaacca ccggaacctg
                                                                            1320
    70 acceptcaggt coggaaagat gtactttqct ttcaatccca aqctqtqtqt ctccqaaatt
                                                                             1380
    72 taccgcatgg aggaagtgac cggaaccaag ggacgccaga gcaaagggga cataaacacc
                                                                            1440
    74 aggaacaacg gagagcgagc ttcctgtgaa agtgatgttc tccgtttcac ctccaccacg
                                                                            1500
    76 acctggaaga accgaatcat cataacgtgg caccggtacc ggccgccgga ctaccgggat
                                                                             1560
```

78 ctcatcagct tcacagttta ctacaaggag gcaccattta aaaacgttac ggaatatgac

1620

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt
Output Set: N:\CRF4\12222006\J662613A.raw

```
80 gggcaggatg cctgtggctc caacagctgg aacatggtgg atgtagacct gcctccgaac
                                                                        1680
82 aaggagggcg agcctggcat tttactgcat gggctgaagc cctggaccca gtatgctgtc
                                                                        1740
84 tatgtcaagg ctgtgaccct caccatggtg gaaaacgacc atatccgtgg ggccaaaagt
                                                                        1800
86 gaaatettgt acattegeae caatgettea gteeetteea tteeeetaga tgteetetea
                                                                        1860
88 gcatcaaact cttcctctca gctgattgtg aagtggaatc ctccaactct gcccaatggt
                                                                        1920
90 aacttgagtt actacattgt gaggtggcag cggcagcccc aggatggtta cctgtaccgg
                                                                        1980
92 cacaactact gctccaaaga caaaataccc atcagaaagt acgccgatgg taccatcgac
                                                                        2040
94 gtggaggagg tgacggaaaa tcccaagaca gaagtgtgtg gtggtgataa agggccatgc
                                                                        2100
96 tgcgcttgcc ctaaaactga agctgagaag caggctgaga aggaggaggc tgagtaccgt
                                                                        2160
98 aaagtetttg agaattteet teacaattee atetttgtge eeaggeeega aaggaggegg
                                                                        2220
100 agagacgtca tgcaagtggc caacacgacc atgtccagcc gaagcaggaa caccacggta
                                                                         2280
102 gctgacacct acaatatcac agacccggag gagttcgaga cagagtaccc tttctttgag
                                                                         2340
104 agcagagtgg ataacaagga gaggactgtc atctccaacc tccqqccttt cactctqtac
                                                                         2400
106 cgcatcgata tccacagctg caaccacgag gctgagaagc tgggctgcag cgcctccaac
                                                                         2460
108 ttcgtctttg cgagaaccat gccagcagaa ggagcagatg atatccctgg tccggtgacc
                                                                         2520
110 tgggagccaa gacccgaaaa ctccatcttt ttaaagtggc cagaacccga gaaccccaac
                                                                         2580
112 ggattgatcc taatgtatga aattaaatac gggtcgcaag tcgaggatca gcgggaatgt
                                                                         2640
114 gtgtccagac aggagtacag gaagtacgga ggggccaaac tcaaccgtct aaacccaggg
                                                                         2700
116 aactatacag cccggattca ggctacctcc ctctctggga atgggtcatg gacagatcct
                                                                         2760
118 gtgttcttct atgtccccgc caaaacgacg tatgagaact tcatgcatct gatcattgct
                                                                         2820
120 ctgccggttg ccatcctgct gatcgttggg gggctggtta tcatgctgta tgtcttccat
                                                                         2880
122 agaaagagaa ataacagcag gttgggcaat ggagtgctgt atgcttctgt gaaccccgag
                                                                         2940
124 tatttcagcg cagctgatgt gtacgtgcct gatgaatggg aggtagctcg agagaagatc
                                                                         3000
126 accatgaacc gggagetegg acaagggtee tttgggatgg tetatgaagg agtggeeaag
                                                                         3060
128 ggtgtggtca aggatgaacc cgaaaccaga gtggccatca agacggtaaa cgaggctgca
                                                                         3120
130 agtatgcgtg aaagaatcga gtttctcaac gaggcctcgg tgatgaagga gttcaattgt
                                                                         3180
132 caccatgtgg tccggttgct gggtgtggta tcccaaggcc agcccaccct ggtcatcatg
                                                                         3240
134 gaactaatga cacgcggtga tctcaaaagt tatctccggt ctctgaggcc agaagtggag
                                                                         3300
136 cagaataatc tagtcctcat tcctccgagc ttaagcaaga tgatccagat ggctggagag
138 attgcagatg gcatggccta cctcaatgcc aacaagttcg tccacagaga ccttgctgct
                                                                         3420
140 aggaactgca tggtagccga agatttcaca gtcaaaattg gagatttcgg tatgacacga
                                                                         3480
142 gacatetacg agacggacta etaceggaaa ggegggaagg gtttgetgee tgtgegetgg
                                                                         3540
144 atgtctcccg agtccctcaa ggatggtgtc ttcactactc attctgatgt ctqqtccttc
                                                                         3600
146 ggggtcgtcc tctgggagat cgccacgctg gctgagcagc cctaccaggg cttgtccaac
                                                                         3660
148 gagcaagttc ttcgtttcgt catggagggt ggccttctgg acaagccgga caactgccct
                                                                         3720
150 gatatgctgt ttgaacttat gcgcatgtgc tggcagtata accccaagat gcggccctcc
                                                                         3780
152 ttcctggaga tcatcggcag catcaaggat gagatggagc ccaqcttcca qqagqtctcc
                                                                         3840
154 ttctactaca gcgaggagaa caagcctccc gagccagagg agctggagat ggagctggag
                                                                         3900
156 atggageetg agaacatgga gagegteeca etggaeeett eggeeteete ageeteeetg
                                                                         3960
158 cctctgcctg aaagacactc aggacacaag gctgagaatg gcccgggccc tggcgtgctc
                                                                         4020
160 gttctccgcg ccagttttga tgagagacag ccttacgctc acatgaacgg gggacgcgcc
                                                                         4080
162 aacgagaggg cettgeetet geeceagtee tegacetget gateetegga cacacegaag
                                                                         4140
164 cacgegecaa cagtaacgtg tgtgececae teggtgggeg ggggggeggg gaggggagag
                                                                         4200
166 caggttgtaa caatctattc acaagcctcc tgtacctcag tggatcttca gacctgccat
                                                                         4260
168 tgctgcccac gggagacggc ttctctgcag taaacacatt tgggaccttc cttttttcaa
                                                                         4320
170 tatgcaagca gctttttatt tcctttaccc gaacccttaa ctgacatggg cctctgcaaa
                                                                         4380
172 ccttaatgac aacacttaat agcaacagga cactcgagaa ttgagtctct tcgttctctg
                                                                         4440
174 cetttttete teetetgeet teeetetetg eeeteteeee tteeaettee aegeteteet
                                                                         4500
177 <210> SEQ ID NO: 2
```

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt
Output Set: N:\CRF4\12222006\J662613A.raw

178 <211> LENGTH: 1373 179 <212> TYPE: PRT 180 <213> ORGANISM: Mus musculus 182 <400> SEQUENCE: 2 184 Met Lys Ser Gly Ser Gly Gly Gly Ser Pro Thr Ser Leu Trp Gly Leu 188 Val Phe Leu Ser Ala Ala Leu Ser Leu Trp Pro Thr Ser Gly Glu Ile 25 192 Cys Gly Pro Gly Ile Asp Ile Arg Asn Asp Tyr Gln Gln Leu Lys Arg 196 Leu Glu Asn Cys Thr Val Ile Glu Gly Phe Leu His Ile Leu Leu Ile 55 200 Ser Lys Ala Glu Asp Tyr Arg Ser Tyr Arg Phe Pro Lys Leu Thr Val 70 204 Ile Thr Glu Tyr Leu Leu Phe Arg Val Ala Gly Leu Glu Ser Leu 208 Gly Asp Leu Phe Pro Asn Leu Thr Val Ile Arg Gly Trp Lys Leu Phe 105 212 Tyr Asn Tyr Ala Leu Val Ile Phe Glu Met Thr Asn Leu Lys Asp Ile 115 120 216 Gly Leu Tyr Asn Leu Arg Asn Ile Thr Arg Gly Ala Ile Arg Ile Glu 135 220 Lys Asn Ala Asp Leu Cys Tyr Leu Ser Thr Ile Asp Trp Ser Leu Ile 150 155 224 Leu Asp Ala Val Ser Asn Asn Tyr Ile Val Gly Asn Lys Pro Pro Lys 165 170 228 Glu Cys Gly Asp Leu Cys Pro Gly Thr Leu Glu Glu Lys Pro Met Cys 180 185 232 Glu Lys Thr Thr Ile Asn Asn Glu Tyr Asn Tyr Arg Cys Trp Thr Thr 200 236 Asn Arg Cys Gln Lys Met Cys Pro Ser Val Cys Gly Lys Arg Ala Cys 215 240 Thr Glu Asn Asn Glu Cys Cys His Pro Glu Cys Leu Gly Ser Cys His 241 225 230 235 244 Thr Pro Asp Asp Asn Thr Thr Cys Val Ala Cys Arg His Tyr Tyr Tyr 245 250 248 Lys Gly Val Cys Val Pro Ala Cys Pro Pro Gly Thr Tyr Arg Phe Glu 260 265 252 Gly Trp Arg Cys Val Asp Arg Asp Phe Cys Ala Asn Ile Pro Asn Ala 275 280 256 Glu Ser Ser Asp Ser Asp Gly Phe Val Ile His Asp Asp Glu Cys Met 290 295 300 260 Gln Glu Cys Pro Ser Gly Phe Ile Arg Asn Ser Thr Gln Ser Met Tyr 310 315 264 Cys Ile Pro Cys Glu Gly Pro Cys Pro Lys Val Cys Gly Asp Glu Glu 325 330 268 Lys Lys Thr Lys Thr Ile Asp Ser Val Thr Ser Ala Gln Met Leu Gln 345 272 Gly Cys Thr Ile Leu Lys Gly Asn Leu Leu Ile Asn Ile Arg Arg Gly

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt
Output Set: N:\CRF4\12222006\J662613A.raw

272			255					260					265			
273	7	7	355	77-	0	~1	.	360		D1	N - L	~ 1	365	-1-	~ 3	**- 7
	ASII		тте	Ala	ser	Glu		GIU	Asn	Pne	мет	_	Leu	тте	GIU	vaı
277	**. 7	370	01	_		_	375	_		_		380	_		_	_
		Thr	GLY	Tyr	Val	Lys	шe	Arg	His	Ser		Ala	Leu	vaı	Ser	
	385	_,	_	_	_	390	_	_		_	395	_				400
	Ser	Pne	Leu	Lys		Leu	Arg	Leu	Ile		Gly	Glu	Glu	Gln		Glu
285					405		_			410				_	415	
	Gly	Asn	Tyr		Phe	Tyr	Val	Leu	_	Asn	Gln	Asn	Leu		Gln	Leu
289				420					425					430		
	Trp	Asp		Asn	His	Arg	Asn		Thr	Val	Arg	Ser	_	Lys	Met	Tyr
293			435					440	_		_	_	445			_
	Phe		Phe	Asn	Pro	Lys		Cys	Val	Ser	Glu		Tyr	Arg	Met	Glu
297		450			_		455		_			460		_		_
		Val	Thr	Gly	Thr	Lys	Gly	Arg	Gln	Ser		Gly	Asp	Ile	Asn	
	465	_	_			470				_	475		_			480
	Arg	Asn	Asn	Gly		Arg	Ala	Ser	Cys		Ser	Asp	Val	Leu		Phe
305		_			485					490					495	
	Thr	Ser	Thr		Thr	Trp	Lys	Asn	_	Ile	Ile	Ile	Thr	_	His	Arg
309	_	_	_	500	_				505	_		_	_	510		
	Tyr	Arg		Pro	Asp	Tyr	Arg		Leu	Ile	Ser	Phe		Val	Tyr	Tyr
313	_		515	_		_		520					525			_
	Lys		Ala	Pro	Phe	Lys		Val	Thr	Glu	Tyr	_	Gly	Gln	Asp	Ala
317	_	530	_	_	_		535					540				
		GLY	Ser	Asn	Ser	Trp	Asn	Met	Val	Asp		Asp	Leu	Pro	Pro	
	545			~-	_	550		_	_	•	555	_	_	_	_	560
	Lys	GIu	GIY	GIu		Gly	Ile	Leu	Leu		Gly	Leu	Lys	Pro	_	Thr
325	~ 3	_			565		_	_ •		570	_				575	_
	GIn	Tyr	Ата		Tyr	Val	гуs	Ala		Thr	Leu	Thr	Met		GIu	Asn
329	3	***	-1 -	580	~1 .		- .	_	585		_	_		590		_
	Asp	HIS		Arg	GIY	Ala	гàг		GIU	тте	ьeu	Tyr		Arg	Thr	Asn
333	71_	0	595	D	0	-1 -	D	600	7	**- 7	.	a	605	a	3	
	Ala		vaı	Pro	ser	Ile		ьeu	Asp	vaı	ьeu		Ата	ser	Asn	ser
337	Com	610	~1 <u>~</u>	T	T1.	***	615	Ш	7	D	D	620	T	D	7	a 1
	625	261	GIII	Leu	116	Val	гуѕ	пр	ASII	PIO		THE	Leu	PIO	ASII	640
		T 011	Com	m	Пист	630	7707	7 ~~~	П	Ø1=	635	C1 -	Dma	~1 m	7 ~~	
345	ASII	ьеи	ser	ıyı	645	Ile	vai	Arg	пр	650	Arg	GIII	PIO	GIII	655	GIY
	Ттт∽	T 011	TT	7/~~		7.00	T7	Crra	Cox		7 00	T	т1.	Dwo		7 ~~
349	IYL	neu	ıyı	660	птэ	ASII	IYI	Cys		гуѕ	ASD	пур	116		TTE	Arg
	Tarc	Ттт	λla		Clar	Thr	T 3 0	7 cm	665	C1,,	C111	17-1	Th∽	670	7 02	Pro
353	пуэ	TYL	675	Asp	Gry	1111	116	680	vaı	GIU	GIU	vai	685	Gru	HSII	PIO
	Tara	Thr		17-7	Cvc	Gly	C111		Tira	C1	Dro	Crea		71-	Cvc	Dro
357	пур	690	GIU	vai	Cys	GIY	695	Asp	цуѕ	GLY	PIO	700	Cys	AIA	Cys	PIO
	Tarc		C111	712	C1,,	Lys		77-	C1	Tura	C1.,		71-	C1.,	(The ease	7 ~~~
361		1111	Giu	Ата	GIU	710	GIII	Ala	GIU	цуѕ		Gru	АТА	GIU	TYL	
		val	Dhe	Glu	λαν	Phe	Len	ui a	7 0 22	C.~	715	Dha	77-7	Dro	7~~	720 Pro
365	пур	val	FIIG	GIU	725	FIIE	neu	птр	HSII	730	тте	FIIE	val	PLO		PIO
	GI.	71 ~~	7/ ~~	λνα		7\ ~~	\7 - 7	Mo≠	C1 ~		77-	7 ~~	Th~	ሞኮ ∽	735 Mot	Ser
369	Gru	nr 9	тд	740	nr 9	rah	vaı	MEL		vaı	HIG	HSII	TIIL		ייפנ	Set
203				/ -1 U					745					750		

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt
Output Set: N:\CRF4\12222006\J662613A.raw

372 Ser Arg Ser Arg Asn Thr Thr Val Ala Asp Thr Tyr Asn Ile Thr Asp 376 Pro Glu Glu Phe Glu Thr Glu Tyr Pro Phe Phe Glu Ser Arg Val Asp 380 Asn Lys Glu Arg Thr Val Ile Ser Asn Leu Arg Pro Phe Thr Leu Tyr 384 Arg Ile Asp Ile His Ser Cys Asn His Glu Ala Glu Lys Leu Gly Cys 388 Ser Ala Ser Asn Phe Val Phe Ala Arg Thr Met Pro Ala Glu Gly Ala 392 Asp Asp Ile Pro Gly Pro Val Thr Trp Glu Pro Arg Pro Glu Asn Ser 396 Ile Phe Leu Lys Trp Pro Glu Pro Glu Asn Pro Asn Gly Leu Ile Leu 400 Met Tyr Glu Ile Lys Tyr Gly Ser Gln Val Glu Asp Gln Arg Glu Cys 404 Val Ser Arg Gln Glu Tyr Arg Lys Tyr Gly Gly Ala Lys Leu Asn Arg 408 Leu Asn Pro Gly Asn Tyr Thr Ala Arg Ile Gln Ala Thr Ser Leu Ser 412 Gly Asn Gly Ser Trp Thr Asp Pro Val Phe Phe Tyr Val Pro Ala Lys 416 Thr Thr Tyr Glu Asn Phe Met His Leu Ile Ile Ala Leu Pro Val Ala 420 Ile Leu Leu Ile Val Gly Gly Leu Val Ile Met Leu Tyr Val Phe His 424 Arg Lys Arg Asn Asn Ser Arg Leu Gly Asn Gly Val Leu Tyr Ala Ser 428 Val Asn Pro Glu Tyr Phe Ser Ala Ala Asp Val Tyr Val Pro Asp Glu 432 Trp Glu Val Ala Arg Glu Lys Ile Thr Met Asn Arg Glu Leu Gly Gln 436 Gly Ser Phe Gly Met Val Tyr Glu Gly Val Ala Lys Gly Val Val 440 Lys Asp Glu Pro Glu Thr Arq Val Ala Ile Lys Thr Val Asn Glu 444 Ala Ala Ser Met Arg Glu Arg Ile Glu Phe Leu Asn Glu Ala Ser 448 Val Met Lys Glu Phe Asn Cys His His Val Val Arg Leu Leu Gly 452 Val Val Ser Gln Gly Gln Pro Thr Leu Val Ile Met Glu Leu Met 456 Thr Arg Gly Asp Leu Lys Ser Tyr Leu Arg Ser Leu Arg Pro Glu 460 Val Glu Gln Asn Asn Leu Val Leu Ile Pro Pro Ser Leu Ser Lys 464 Met Ile Gln Met Ala Gly Glu Ile Ala Asp Gly Met Ala Tyr Leu 468 Asn Ala Asn Lys Phe Val His Arg Asp Leu Ala Ala Arg Asn Cys

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/662,613A

DATE: 12/22/2006 TIME: 18:39:25

Input Set

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt

Output Set: N:\CRF4\12222006\J662613A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:7; N Pos. 3177,3178

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/662,613A

DATE: 12/22/2006 TIME: 18:39:25

Input Set : N:\efs\12_22_06\10662613a_efs\PTO.AMC.txt
Output Set: N:\CRF4\12222006\J662613A.raw

L:13 M:270 C: Current Application Number differs, Wrong Format L:6716 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:3120